

WHAT IS CLAIMED IS:

1. In an impact absorbing type steering column apparatus for an automotive vehicle, capable of adjusting a steering position and, when a secondary collision happens, absorbing impact energy thereof by moving a steering column supported through a bracket on a car body towards the front of the vehicle,
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an improvement characterized in that said bracket includes a restricting portion for restricting a steering position adjusting range of said steering column, and
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said restricting portion allows, upon the secondary collision, said steering column to move beyond the steering position adjusting range.
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2. In an impact absorbing type steering column apparatus for an automotive vehicle, capable of adjusting a steering position and, when a secondary collision happens, absorbing impact energy thereof by moving a steering column supported through a bracket on a car body towards the front of the vehicle,
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an improvement characterized in that said bracket includes a steering column position adjusting groove, through which a fastening member of said steering column is inserted and of which one end is opened, and a restricting portion for restricting a steering position adjusting range of said steering
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column, and

 said restricting portion allows, upon the secondary collision, said steering column to move beyond the steering position adjusting range.

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 3. An impact absorbing type steering column apparatus for an automotive vehicle according to claim 2, wherein said groove serves for adjusting a tilt position of said steering column, and a lower 10 bracket supporting said steering column through a hinge mechanism in the front of the vehicle and supported on the car body, is provided on a front-of-the vehicle side of said bracket,

 15 said lower bracket includes a cut-away portion through which a pivot of said hinge mechanism is inserted and of which a front-of-the-vehicle side is opened, and

 20 said pivot comes off said open end of said cut-away portion upon an axis-directional input of said steering column when the secondary collision happens, and said steering column is released from said lower bracket.

 25 4. An impact absorbing type steering column apparatus for an automotive vehicle according to claim 2 or 3, wherein a protrusion for regulating a movement of said fastening member is provided as said

restricting portion within said adjusting groove.

5 5. An impact absorbing type steering column apparatus for an automotive vehicle according to claim 4, wherein said protrusion is constructed of a plurality of protrusions formed in alignment in their directions towards the front of the vehicle.

10 6. An impact absorbing type steering column apparatus for an automotive vehicle according to claim 4 or 5, wherein said protrusion includes an abutting surface on the side facing said fastening member.

15 7. An impact absorbing type steering column apparatus for an automotive vehicle according to claim 3, wherein said restricting portion of said bracket extends substantially in front-and-rear directions of the vehicle in a way that leaves said 20 open end, and is formed to delimit substantially a lower portion of said position adjusting groove, and said restricting member includes a bend allowing portion for allowing said fastening member of said steering column to move towards the front of the 25 vehicle through said open end.

8. An impact absorbing type steering column

apparatus for an automotive vehicle according to
claim 3, wherein said restricting portion of said car
body sided bracket extends substantially in vertical
directions in a way that leaves said open end, and is
5 formed to delimit substantially a side position of
said adjusting groove, and
said restricting portion includes a bend
allowing portion for allowing said fastening member
of said steering column to move towards the front of
10 the vehicle through said open end.

9. An impact absorbing type steering column
apparatus for an automotive vehicle according to
claim 2 or 3, further comprising a column support
15 member extending so as to be curved under said
steering column,
wherein said column support member delimits
substantially the lower portion of the steering
position adjusting range, and prevents said steering
20 column from falling down.

10. In an impact absorbing type steering column
apparatus for an automotive vehicle, capable of
adjusting a steering position and, when a secondary
25 collision happens, absorbing impact energy thereof by
moving a steering column supported through a bracket
on a car body towards the front of the vehicle,

an improvement characterized in that there is provided a restricting member including a first restricting portion and a second restricting portion, said restricting member allows, within said first 5 restricting portion, said steering column to move for a positional adjustment, then deforms when said steering column moves, upon a secondary collision, beyond a first predetermined range restricted by said first restricting portion, and restricts the movement 10 of said steering column within a second predetermined range by use of said second restricting portion.

11. An impact absorbing type steering column apparatus for an automotive vehicle according to 15 claim 10, wherein said bracket is constructed of an upper bracket and a lower bracket, a bolt is inserted through a hole of said upper bracket, and said steering column is supported by said upper bracket, said restricting member is formed integrally 20 with said car body sided upper bracket, said first restricting portion is formed with said hole, and

when said steering column moves through only the first predetermined range upon the secondary 25 collision, said bolt causes said restricting member to deform and enters said second restricting portion provided adjacent to said first restricting portion.

12. An impact absorbing type steering column apparatus for an automotive vehicle according to claim 11, wherein when said bolt enters said second 5 restricting portion, said restricting member makes its flexural deformation so as to extend in a moving direction of said bolt.

13. An impact absorbing type steering column apparatus for an automotive vehicle according to 10 claim 11, wherein said second restricting portion is previously formed as an elongate hole suitable for guiding said bolt in its moving direction when said bolt has entered said second restricting portion.

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14. An impact absorbing type steering column apparatus for an automotive vehicle according to claim 11, wherein said hole of said upper bracket is a groove for a tilt adjustment, said bolt is a 20 fastening bolt for the tilt adjustment, and said lower bracket pivotally supports said steering column.

15. An impact absorbing type steering column apparatus for an automotive vehicle according to 25 claim 11, wherein a bolt is inserted through a hole of said lower bracket, and said steering column is supported by said lower bracket,

said restricting member is formed integrally with said car body sided lower bracket,

 said first restricting portion is formed with said hole, and

5 when the secondary collision happens, impact energy is absorbed in a way that causes a flexural deformation of said restricting member while moving said steering column towards the front of the vehicle, and

10 when said steering column moves through only the first predetermined range, said bolt causes said restricting member to deform and enters said second restricting portion provided adjacent to said first restricting portion.

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 16. An impact absorbing type steering column apparatus for an automotive vehicle according to claim 15, wherein when said bolt enters said second restricting portion, said restricting member makes 20 its flexural deformation so as to extend in a moving direction of said bolt.

 17. An impact absorbing type steering column apparatus for an automotive vehicle according to claim 15, wherein said second restricting portion is 25 previously formed as an elongate hole suitable for guiding said bolt in its moving direction when said

bolt has entered said second restricting portion.

18. An impact absorbing type steering column apparatus for an automotive vehicle according to
5 claim 15, wherein said hole of said car body sided lower bracket is a support hole for the tilt adjustment, and said bolt is a tilt adjusting hinge pin for determining a tilt center when inserted into said support hole.